NC/QC/PD/MW-01/2018-19/RW-C1 **Date: 04-04-2018**

## 1. TEST REPORT ON CEMENT:

**Sub**: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Construction of Concrete Retaining Wall at BHEL mini colony slum in Mallasandra ward No.13.}
**Ref.**: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Project Division, Dasarahalli Zone,
BBMP, Bangalore.
Name of the Agency/Contractor*: Technical Manager, KRIDL.

### PHYSICAL TESTS ON CEMENT

Brand : CHETTINAD
Grade * : 53,
Type * : O.P.C

**TABLE 1.1:**

| SL No | Name of Test | Test Results | Requirements as per IS 8112-1989 |
|---|---|---|---|
| 1 | Initial setting time | **178 min** | Shall not be less than 30 min |
| 2 | Final setting time | **251 min** | Shall not be more than 600 min |
| 3 | Fineness (by dry sieving on IS 90 micron sieve) | **1.97 %** | Not to exceed 10.0% |
| 4 | Soundness test(by Le-Chatelier's method) | **2.21 mm** | Shall not be more than 10 mm |
| 5 | Compressive strength<br>a) 3 days (average of three results)<br>b) 7 days ( average of three results) | **28.04 N/Sq mm**<br>**38.19 N/Sq mm** | Shall not be less than 27 N/Sqmm<br>Shall not be less than 37N/Sqmm |

*As furnished by Client.
The Results relate only to the items tested.

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Asst. Executive Engineer
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NC/QC/PD/MW-01/2018-19/RW-PCC1 **Date: 04-04-2018**

## 1. TESTING OF COARSE AND FINE AGGREGATES:

**Sub**: Testing of Coarse and Fine aggregates to be used for M-10 grade concrete .
{Project*: Construction of Concrete Retaining Wall at BHEL mini colony slum in Mallasandra ward No.13.}
**Ref.**: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Project Division, Dasarahalli Zone,
BBMP, Bangalore.
Name of the Agency/Contractor*: Technical Manager, KRIDL.

### 1. COARSE AGGRGATES Table - SIEVE ANALYSIS :

| IS Sieve Size, mm | Percentage passing | Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing | |
|---|---|---|---|
| | 40 mm Sample | Single size | Graded |
| 40mm | 96.35 | 85-100 | 95 – 100 |
| 20mm | 59.90 | 0 -20 | 30- 70 |
| 10mm | 32.05 | 0 -5 | 10- 35 |
| 4.75mm | 3.75 | ------ | 0- 5 |

### 2. FINE AGGREGATES TABLE - SIEVE ANALYSIS :

| IS Sieve Size, mm | Percentage Passing | Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing | | | Remarks |
|---|---|---|---|---|---|
| | | Zone-I | Zone-II | Zone –III | |
| 04.75 | 96.25 | 90-100 | 90-100 | 90-100 | The Sample Conforms to Grading Zone-II |
| 02.36 | 84.90 | 60-95 | 75-100 | 85-100 | |
| 01.18 | 59.70 | 30-70 | 55-90 | 75-100 | |
| 600. mic | 48.20 | 15-34 | 35-59 | 60-79 | |
| 300.mic | 17.65 | 5-20 | 8-30 | 12-40 | |
| 150.mic | 5.40 | 0-10 | 0-10 | 0-10 | |

*As Furnished by Client.
The Results relate only to the items tested.

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NC/QC/PD/MW-01/2018-19/RW-C2 Date: 07-04-2018

## 1. TEST REPORT ON CEMENT:

**Sub**: Testing of 53 Grade Cement Sample (IS 12269-1987).
{Project*: Construction of Concrete Retaining Wall at BHEL mini colony slum in Mallasandra ward No.13.}
**Ref.**: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Project Division, Dasarahalli Zone,
BBMP, Bangalore.
Name of the Agency/Contractor*: Technical Manager, KRIDL.

### PHYSICAL TESTS ON CEMENT

Brand : CHETTINAD
Grade * : 53,
Type * : O.P.C

**TABLE 1.1:**

| SL No | Name of Test | Test Results | Requirements as per IS 8112-1989 |
|---|---|---|---|
| 1 | Initial setting time | **169 min** | Shall not be less than 30 min |
| 2 | Final setting time | **281 min** | Shall not be more than 600 min |
| 3 | Fineness (by dry sieving on IS 90 micron sieve) | **1.92 %** | Not to exceed 10.0% |
| 4 | Soundness test(by Le-Chatelier's method) | **1.97 mm** | Shall not be more than 10 mm |
| 5 | Compressive strength<br>a) 3 days (average of three results)<br>b) 7 days ( average of three results) | **27.54 N/Sq mm**<br>**38.91 N/Sq mm** | Shall not be less than 27 N/Sqmm<br>Shall not be less than 37N/Sqmm |

*As furnished by Client.
The Results relate only to the items tested.

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NC/QC/PD/MW-01/2018-19/RW-FA1 Date: 07-04-2018

## 1. TESTING OF FINE AGGREGATES :

**Sub**: Testing of Fine Aggregates.
{Project*: Construction of Concrete Retaining Wall at BHEL mini colony slum in Mallasandra ward No.13.}
**Ref.**: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Project Division, Dasarahalli Zone,
BBMP, Bangalore.
Name of the Agency/Contractor*: Technical Manager, KRIDL.

**TABLE - 1.1 : SIEVE ANALYSIS :**

| IS Sieve Size,mm | Percentage Passing | Specification as Per IS: 383-1970(Reaffirmed 2002) Percentage Passing | | | Remarks |
|---|---|---|---|---|---|
| | | Zone-I | Zone-II | Zone -II | |
| 04.75 | **95.85** | 90-100 | 90-100 | 90-100 | The Sample Conforms to Grading **Zone-II** |
| 02.36 | **88.20** | 60-95 | 75-100 | 85-100 | |
| 01.18 | **74.95** | 30-70 | 55-90 | 75-100 | |
| 600. mic | **51.10** | 15.34 | 35-59 | 60-79 | |
| 300.mic | **16.70** | 5-20 | 8-30 | 12-40 | |
| 150.mic | **6.40** | 0-10 | 0-10 | 0-10 | |

**TABLE 1.2 ;**

| Sl No | Test Conducted | Sample | Results | **Requirements** as Per IS. Specification IS :383-1970 (Reaffirmed 2002) |
|---|---|---|---|---|
| 1 | Bulking of Sand | 001 | **16.90 %** | ----- |
| 2 | Silt Content | ---- | **0.61 %** | Not more than 8% |
| 3 | Specific Gravity | ---- | **2.62** | ------- |

*As Furnished by Client.
The Results relate only to the items tested.

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NC/QC/PD/MW-01/2018-19/RW-CA1 Date: 07-04-2018

## 1. TESTING OF COARSE AGGREGATES (20 mm):

**Sub**: Testing of Construction Materials.
{Project*: Construction of Concrete Retaining Wall at BHEL mini colony slum in Mallasandra ward No.13.}
**Ref.**: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Project Division, Dasarahalli Zone,
BBMP, Bangalore.
Name of the Agency/Contractor*: Technical Manager, KRIDL.

**Table - 1.1 : SIEVE ANALYSIS :**

| IS Sieve Size, mm | Percentage passing | Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing | |
|---|---|---|---|
| | 20 mm Sample | Single size | Graded |
| 40 mm | 100.00 | 100.00 | 100.00 |
| 20 mm | 97.35 | 85-100 | 90 - 100 |
| 10 mm | 52.10 | 0 - 20 | 25 - 55 |
| 4.75 mm | 4.85 | 0 - 5 | 0 - 10 |

**TABLE 1.2 :**

| SL No | Test conducted | Results | Requirements as per IS:383-1970 & Tests Conforms to IS 2386( Part I to IV) – 1963 ( Reaffirmed on 2002) |
|---|---|---|---|
| 1. | Flakiness Index | 21.20 % | Not to exceed 25 % |
| 2. | Crushing value | 24.95 % | Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces |

*As Furnished by Client.
The Results relate only to the items tested.

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NC/QC/PD/MW-01/2018-19/RW-S1

Date: 07-04-2018

## 1. TEST REPORT ON REINFORCEMENT STEEL:

**Sub**: Testing of Reinforcement Steel of diameter 10 & 12 mm **TMT Steel.**
{Project*: Construction of Concrete Retaining Wall at BHEL mini colony slum in Mallasandra ward No.13.}
**Ref.**: Material testing/QC/18-19,
Report Required for: Assistant Executive Engineer,
Project Division, Dasarahalli Zone,
BBMP, Bangalore.
Name of the Agency/Contractor*: Technical Manager, KRIDL.

**TABLE – 1**

| SL No | Details | For 10 mm | | For 12 mm | |
|---|---|---|---|---|---|
| | | Test Results | Min Req. as per IS 1786-2008 | Test Results | Min Req. as per IS 1786-2008 |
| 01 | Observed diameter of bar | **10.0 mm** | 10.0 mm | **12.0 mm** | 12.0 mm |
| 02 | Observed Wt/m Length **Kg/m** | **0.619** | 0.567 | **0.884** | 0.834 |
| 03 | Proof stress/Yield stress, fy , **N/mm²** | **534.0** | 500.0 | **541.0** | 500.0 |
| 04 | Bend/ Re bend Test | **Ok** | --- | **Ok** | --- |
| 05 | Percentage of Elongation, % | **22.10** | 12.00 | **21.80** | 12.00 |
| 06 | Ultimate Tensile Strength **N/mm²** | **631.0** | 545.0 | **646.0** | 545.0 |

*As furnished by Client.
The Results relate only to the items tested.

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Date: 10-04-2018

**1.TESTING OF STONE SAMPLE :**

**Sub:** Testing of Size stone.

{Project*: Construction of Concrete Retaining Wall at BHEL mini colony slum in Mallasandra ward No.13.}

**Ref.**: Material testing/QC/18-19,

Report Required for: Assistant Executive Engineer,
Project Division, Dasarahalli Zone,
BBMP, Bangalore.

Name of the Agency/Contractor*: Technical Manager, KRIDL.

Technical Reference: IS 1121(Part 1) -1974 (R.A on 1998)

**Table 1.1 :**

| SL No | Details of Tests | Observed Value | Normal Values |
|---|---|---|---|
| 01 | Compressive Strength | **1364.00** Kg/ Sqcm | Not less than 1000.00 Kg/Sqcm |
| 02 | Water absorption,% | **0.44 %** | Not more than 2.0 % |

*As Furnished by Client.

The Results relate only to the items tested.

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NC/QC/PD/MW-01/2018-19/RW-SSM2 **Date: 12-04-2018**

**1.TESTING OF STONE SAMPLE :**

**Sub:** Testing of Size stone.

{Project*: Construction of Concrete Retaining Wall at BHEL mini colony slum in Mallasandra ward No.13.}

**Ref.**: Material testing/QC/18-19,

Report Required for: Assistant Executive Engineer,
Project Division, Dasarahalli Zone,
BBMP, Bangalore.

Name of the Agency/Contractor*: Technical Manager, KRIDL.

Technical Reference: IS 1121(Part 1) -1974 (R.A on 1998)

**Table 1.1 :**

| SL No | Details of Tests | Observed Value | Normal Values |
|---|---|---|---|
| 01 | Compressive Strength | **1319.00** Kg/ Sqcm | Not less than 1000.00 Kg/Sqcm |
| 02 | Water absorption,% | **0.46 %** | Not more than 2.0 % |

*As Furnished by Client.

The Results relate only to the items tested.

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NC/QC/PD/MW-01/2018-19/RW-SSM3 Date: 16-04-2018

**1.TESTING OF STONE SAMPLE :**

**Sub:** Testing of Size stone.

{Project*: Construction of Concrete Retaining Wall at BHEL mini colony slum in Mallasandra ward No.13.}

**Ref.**: Material testing/QC/18-19,

Report Required for: Assistant Executive Engineer,
Project Division, Dasarahalli Zone,
BBMP, Bangalore.

Name of the Agency/Contractor*: Technical Manager, KRIDL.

Technical Reference: IS 1121(Part 1) -1974 (R.A on 1998)

**Table 1.1 :**

| SL No | Details of Tests | Observed Value | Normal Values |
|---|---|---|---|
| 01 | Compressive Strength | **1351.00** Kg/ Sqcm | Not less than 1000.00 Kg/Sqcm |
| 02 | Water absorption,% | **0.42 %** | Not more than 2.0 % |

*As Furnished by Client.

The Results relate only to the items tested.



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NC/QC/PD/MW-01/2018-19/RW-SSM4 **Date: 18-04-2018**

**1.TESTING OF STONE SAMPLE :**

**Sub:** Testing of Size stone.

{Project*: Construction of Concrete Retaining Wall at BHEL mini colony slum in Mallasandra ward No.13.}

**Ref.**: Material testing/QC/18-19,

Report Required for: Assistant Executive Engineer,
Project Division, Dasarahalli Zone,
BBMP, Bangalore.

Name of the Agency/Contractor*: Technical Manager, KRIDL.

Technical Reference: IS 1121(Part 1) -1974 (R.A on 1998)

**Table 1.1 :**

| SL No | Details of Tests | Observed Value | Normal Values |
|---|---|---|---|
| 01 | Compressive Strength | **1374.00** Kg/ Sqcm | Not less than 1000.00 Kg/Sqcm |
| 02 | Water absorption,% | **0.41 %** | Not more than 2.0 % |

*As Furnished by Client.

The Results relate only to the items tested.



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